Listing and Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) Method for controlling the insertion of additional fields or frames into a first format picture sequence having a first frame frequency in order to construct therefrom a second format picture sequence having a second frame frequency ~~of~~ which is constant and ~~is~~ greater than the first frame frequency of the first format picture sequence, said method including the steps:

   –   determining locations of fields or frames in said first format picture sequence at which locations the insertion of a corresponding additional field or frame causes a minimum visible motion judder in said second format picture sequence;

   –   inserting in said first format picture sequence a field or a frame at some of said locations at non-regular field or frame insertion distances such that in total the average distance between any adjacent frames corresponds to that of said second format picture sequence;

   –   presenting said first format picture sequence together with said non-regularly inserted fields and/or frames in the format of said second format picture sequence,

      wherein <u>a maximum amount of presentation delay of the video track relative to the audio track is determined and</u> said field or frame insertion locations in said first format picture sequence are controlled such that, in order to gain perceived lip-sync, in said second format picture sequence ~~the maximum picture content delay~~ <u>a smaller maximum amount of presentation delay of the video track relative to the audio track</u> caused by the insertion irregularity is ~~kept smaller than average~~ <u>used</u> in case a slowly moving or static scene <u>is detected</u> and speech <u>or short sound peaks are detected</u> in the audio information assigned to said first format picture sequence ~~are detected~~.

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2. (Currently amended) Apparatus for controlling the insertion of additional fields or frames into a first format picture sequence in order to construct therefrom a second format picture sequence having a frame frequency which is constant and is greater than that of the first format picture sequence, said apparatus including means that are adapted for determining locations of fields or frames in said first format picture sequence at which locations the insertion of a corresponding additional field or frame causes a minimum visible motion judder in said second format picture sequence, and for inserting in said first format picture sequence a field or a frame at some of said locations at non-regular field or frame insertion distances such that in total the average distance between any adjacent frames corresponds to that of said second format picture sequence, and for presenting said first format picture sequence together with said non-regularly inserted fields and/or frames in the format of said second format picture sequence,

wherein a maximum amount of presentation delay of the video track relative to the audio track is determined and said field or frame insertion locations in said first format picture sequence are controlled by said means such that, in order to gain perceived lip-sync, in said second format picture sequence the maximum picture content delay a smaller maximum amount of presentation delay of the video track relative to the audio track caused by the insertion irregularity is kept smaller than average used in case a slowly moving or static scene is detected and speech or short sound peaks are detected in the audio information assigned to said first format picture sequence are detected.

3. (Previously presented) Apparatus according to claim 2, said apparatus comprising one of: an optical disc player, an optical disc recorder, a hard disk recorder, a personal computer, a set top box, or a TV receiver.

4. (Previously presented) Apparatus according to claim 2, wherein said apparatus outputs either the original first format picture sequence or said second format picture sequence, which choice is controlled by replay mode information received either automatically from an interface that is connected to a device including a display device, or is received from a user interface.

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5. (Previously presented) Method according to claim 1, wherein speech in the audio information assigned to said first format picture sequence is detected by evaluating, in multi-channel audio, whether the centre channel relative to left and right channels shows a bursty energy distribution over time that is significantly different from the energy distribution in the left and right channels.

6. (Previously presented) Method according to claim 1, wherein said first format picture sequence is stored or recorded on a storage medium, or is broadcast or transferred as a digital TV signal.

7. (Previously presented) Method according to claim 1, wherein said field or frame insertion locations in said first format picture sequence are frames or fields that do not contain large moving picture content areas, the motion being determined by evaluating motion vectors.

8. (Previously presented) Method according to claim 1, wherein said field or frame insertion locations in said first format picture sequence are frames or fields at which scene changes or a fade-to-black or a fade-to-white or a fade to any colour occurs.

9. (Previous presented) Method according to claim 1, wherein the inserted fields or frames are motion compensated before being output in said second format picture sequence.

10. (Previously presented) Method according to claim 1, wherein said first format picture sequence is an MPEG-2 picture sequence and wherein said inserting of fields or frames in said first format picture sequence is controlled by evaluating flags either for indicating temporal order of fields or for indicating repetition of the first field for display, which flags are conveyed in said first format picture sequence in a user data field for each picture.

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11. (Currently amended) Method for facilitating at encoder side a decoder-side control of the insertion of additional fields or frames into an MPEG-2 picture sequence having a first frame frequency in order to construct therefrom a picture sequence having a second frame frequency which is greater, wherein a maximum amount of presentation delay of the video track relative to the audio track is determined and field or frame insertion locations in said picture sequence are to be controlled by conveyed flags such that, in order to gain perceived lip-sync, a smaller maximum amount of presentation delay of the video track relative to the audio track the maximum picture content delay caused by the insertion irregularity is kept smaller than average used in case there is a slowly moving or static scene is detected as well as speech or short sound peaks are detected in the audio information assigned to said picture sequence, said method including the step of inserting, for each picture in said picture sequence, in a user data field either flags for indicating temporal order of fields or flags for indicating repetition of the first field for display.

12. (New) Method according to claim 1, wherein said first frame frequency is 24Hz and the frame frequency of said second format picture sequence is 25Hz.

13. (New) Method according to claim 1, wherein flags signaling locations for fields or frames to be repeated or interpolated are conveyed in a user data field of said first format picture sequence.

14. (New) The apparatus according to claim 2, wherein said first frame frequency is 24Hz and the frame frequency of said second format picture sequence is 25Hz.

15. (New) The apparatus according to claim 2, wherein flags signaling locations for fields or frames to be repeated or interpolated are conveyed in a user data field of said first format picture sequence.

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